



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/770,141	02/02/2004	Serguei Koulikov	PIC-10024	2647
7590 Herbert Burkard 480 Oakmead Parkway Sunnyvale, CA 94085			EXAMINER MARTINEZ, JOSEPH P	
			ART UNIT 2873	PAPER NUMBER
DATE MAILED: 07/13/2005				

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/770,141

Applicant(s)

KOULIKOV ET AL.

Examiner

Joseph P. Martinez

Art Unit

2873

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 April 2005.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) 19-25 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,5-11,13,14 and 18 is/are rejected.
- 7) ☒ Claim(s) 2-4, 12 and 15-17 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 02 February 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____

DETAILED ACTION

Response to Arguments

Applicant's arguments, see p. 7-11, filed 4-4-05, with respect to the rejection(s) of claim(s) 1-3 and 5-18 have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Vakhshoori et al. (20020176476), Colin et al. (6816323) and Bedzyk (5194993).

Claim Objections

Claims 13 and 17 are objected to because of the following informalities: Claim 13 fails to have a punctuation mark at the end of the sentence. The office interprets a period after the last word of claims 13 and 17. Appropriate correction is required.

Claim 17 objected to because of the following informalities: Claim 17 depends upon itself. The office interprets claim 17 to depend upon claim 16 for purposes of examination. Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 7, 9-11 and 14 are rejected under 35 U.S.C. 102(b) as being fully anticipated by Vakhshoori et al. (20020176476).

Re claim 1, Vakhshoori et al. teaches for example in fig. 1, an apparatus for coupling a collimated light beam into a waveguide comprising: i) a strong focusing lens (20) interposed between the source (5) of said collimated light beam and said waveguide (10); and ii) a weak lens (30) positioned in the path of said collimated light beam between said source and said strong lens, said weak lens being translatable along the path of said collimated beam (para. 0016, wherein the office interprets "an automated X-Y-Z movement assembly . . . to facilitate the proper positioning of the weak lens 30" to teach the weak lens to be positionable along each of the X-Y-Z axes and therefore along the optical path as claimed) and also having at least one degree of positional freedom in a plane perpendicular to said beam path (para. 0016).

Re claim 7, Vakhshoori et al. further teaches for example, said weak lens has a focal length of from about 10 to about 100 times that of the strong lens (para. 0015).

Re claims 9 and 10, Vakhshoori et al. further teaches for example in fig. 1, said weak lens is a positive lens and said weak lens is biconvex.

Re claim 11, Vakhshoori et al. further teaches for example in fig. 1, said waveguide is a SOA.

Re claim 14, Vakhshoori et al. further teaches for example in fig. 2, a strong collimating lens (15) and an optical isolator (40) interposed between said beam source (5) and said focusing lens (20).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 5, 6 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Vakhshoori et al. (20020176476).

Re claims 5, 6 and 8, supra claim 1. Furthermore, Vakhshoori et al. further teaches for example, the weak lens has a much longer focal length than that of the focusing lens (para. 0015) and teaches varying the focal length of the weak and focusing lenses (para. 0015).

But, Vakhshoori et al. fails to explicitly teach the weak lens has a focal length in the range of 10mm to 500mm or in the range of 20mm to 200mm or the weak lens has a focal length of from about 10 to about 100 times that of the strong lens.

However, it would have been obvious to one of ordinary skill in the art at the time the invention was made to teach a focal length in the range of 10mm to 500mm or in the range of 20mm to 200mm or the weak lens has a focal length of from about 10 to about 100 times that of the strong lens, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teachings of Vakhshoori et al. to provide a range of 10mm to 500mm or a range of 20mm to 200mm or the weak lens has a focal length of from about 10 to about 100 times that of the strong lens in order to adjust the focusing spot onto the SOA.

2. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Vakhshoori et al. (20020176476) in view of Colin et al. (6816323).

Re claim 13, supra claim 1.

But, Vakhshoori et al. fails to explicitly teach an external cavity semiconductor laser.

However, within the same field of endeavor, Colin et al. teaches for example in fig. 8, an external cavity semiconductor laser.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teachings of Vakhshoori et al. with Colin et al. in order to provide precise optical coupling, as taught by Colin et al. (6816323).

3. Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Vakhshoori et al. (20020176476) in view of Bedzyk (5194993).

Re claim 18, supra claim 1. Furthermore, Vakhshoori et al. teaches for example the use of a lens movement assembly, which is well known in the art (para. 0016)

But, Vakhshoori et al. fails to explicitly teach said weak lens is fixedly held in a lens mount contained within a housing, said lens mount being vertically moveable within said housing and said housing being translatable along said beam path and also transverse to said beam path.

However, within the same field of endeavor, Bedzyk teaches for example in fig. 2, lens mount (36) contained within a housing (33), said lens mount being vertically moveable within said housing (col. 2, ln. 30-36) and said housing being translatable along said beam path and also transverse to said beam path (col. 2, ln. 30-36).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teachings of Vakhshoori et al. with the lens mount of Bedzyk in order to provide an inexpensive lens mount for positioning a lens, as taught by Bedzyk (col. 2, ln. 30-32).

Allowable Subject Matter

Claims 2-4, 12 and 15-17 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: the prior art taken alone or in combination fails to anticipate or fairly suggest the limitations of the claims, in such a manner that a rejection under 35 USC 102 or 103 would be proper. The prior art fails to teach a combination of all the claimed features as presented in dependent claims 2, 12, 15 and 16.

Specifically regarding claim 2, Vakhshoori et al. (20020176476) teaches the state of the art of an apparatus for coupling a collimated light beam.

But, Vakhshoori et al. fails to explicitly teach said weak lens is affixed to a mounting prism, as claimed.

Specifically regarding claims 12 and 16, Vakhshoori et al. (20020176476) teaches the state of the art of an apparatus for coupling a collimated light beam.

But, Vakhshoori et al. fails to explicitly teach a pump laser and a frequency doubling crystal, as claimed.

Specifically regarding claim 15, Vakhshoori et al. (20020176476) teaches the state of the art of an apparatus for coupling a collimated light beam.

But, Vakhshoori et al. fails to explicitly teach one orientational degree of freedom, as claimed.


Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joseph P. Martinez whose telephone number is 571-272-2335. The examiner can normally be reached on M-F 7:00 AM to 3:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Georgia Y. Epps can be reached on 571-272-2328. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JPM
7-7-05



DAVID SPECTOR
PRIMARY EXAMINER